

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of claims:

1. (Amended) A method for determining whether a molecule affects the function or activity of a sterol biosynthesis pathway in a *S. cerevisiae* cell comprising:
 - (a) contacting said cell with, or recombinantly expressing within said cell, said molecule;
 - (b) determining whether RNA expression or protein expression in said cell of a target polynucleotide sequence is changed in step (a) relative to the expression of said target polynucleotide sequence in the absence of said molecule, said target polynucleotide being a sequence operatively linked to a promoter native to *S. cerevisiae* gene YMR325W, or a YMR325W promoter sequence homolog[[s]] comprising one or more nucleotide substitutions, additions or deletions that do not effect the ability of the sequence to promote transcription of said operatively linked sequence thereof; and
 - (c) determining that said molecule affects the function or activity of said sterol biosynthesis pathway if expression of said target polynucleotide is changed, or determining that said molecule does not affect the function or activity of said sterol biosynthesis pathway if expression of said target polynucleotide sequence is unchanged.
2. (Original) The method of claim 1, wherein said target polynucleotide sequence comprises a marker gene; wherein step (b) comprises determining whether the RNA expression or protein expression of said marker gene is changed in step (a) relative to the expression of said marker gene in the absence of the molecule; and wherein step (c) comprises determining that said molecule affects the function or activity of said sterol biosynthesis pathway if expression of said marker gene is changed, or determining that said molecule does not affect the function or activity of said sterol biosynthesis pathway if expression of said marker gene is unchanged.
3. (Original) The method of claim 1 which is a method for determining whether said molecule inhibits sterol biosynthesis such that said cell contacted with the molecule exhibits a lower level of sterol than a second cell which is not contacted with said molecule.

4. (Original) The method of claim 1, wherein step (b) comprises determining whether RNA or protein expression of a target polynucleotide sequence regulated by a promoter native to YMR325W is changed.
5. (Original) The method of claim 1, wherein step (b) comprises determining whether RNA expression is changed.
6. (Original) The method of claim 1, wherein step (b) comprises determining whether protein expression is changed.
7. (Original) The method of claim 1 which is a method for determining whether said molecule inhibits sterol biosynthesis, and wherein step (c) comprises determining that said molecule inhibits sterol biosynthesis if expression of said target polynucleotide sequence in step (a) is increased relative to expression of said target polynucleotide sequence in the absence of said molecule.
8. (Original) The method of claim 1, wherein the *S. cerevisiae* cell is a cell that recombinantly expresses said target polynucleotide sequence.
9. (Original) The method of claim 1, wherein step (a) comprises contacting said cell with said molecule, and wherein step (a) is carried out in a liquid high throughput-like assay.
10. (Original) The method of claim 1, wherein step (a) comprises contacting said cell with said molecule, and wherein step (a) is carried out in a solid plate halo assay.
11. (Original) The method of claim 1, wherein step (a) comprises contacting said cell with said molecule, and wherein step (a) is carried out in an agar overlay assay.
12. (Canceled)
13. (Amended) A method for monitoring activity of a sterol biosynthesis pathway in a *S. cerevisiae* cell exposed to a molecule comprising:
 - (a) contacting said cell with, or recombinantly expressing within said cell, said molecule;
 - (b) determining whether RNA expression or protein expression in said cell of a target polynucleotide sequence is changed in step (a) relative to expression of said target polynucleotide sequence in the absence of said molecule, said target polynucleotide sequence being regulated by a promoter native to a *S. cerevisiae* YMR325W gene[[],] or a YMR325W promoter sequence

homolog[[s]]-comprising one or more nucleotide substitutions, additions or deletions that do not effect the ability of the sequence to promote regulated transcription of said target polynucleotide sequence thereof; and

(c) determining that the activity of the sterol biosynthesis pathway in said cell is changed if expression of said target polynucleotide is determined to be changed in step (b), or determining that the activity of the sterol biosynthesis pathway in said cell is unchanged if expression of said target polynucleotide is determined to be unchanged in step (b).

14. (Canceled)

15. (Original) The method of claim 13, wherein step (a) comprises contacting said cell with said molecule.

16. (Canceled)

17. (Original) The method of claim 13, wherein step (a) comprises recombinantly expressing within said cell said molecule.

18. (Canceled)

19. (Original) The method of claim 13, wherein step (b) comprises determining that said expression is increased, and step (c) comprises determining that the activity of said sterol biosynthesis pathway is inhibited.

20. (Amended) The method of claim [[12,]]13, [[14,]]15, [[16,]]17, [[18,]]or 19, wherein said target polynucleotide sequence comprises *S. cerevisiae* YMR325W.

21. (Amended) A method for identifying a molecule that modulates expression of a sterol biosynthesis pathway target polynucleotide sequence comprising:

(a) recombinantly expressing in a *S. cerevisiae* cell, or contacting a *S. cerevisiae* cell with, at least one candidate molecule; and

(b) measuring RNA or protein expression in said cell of a target polynucleotide sequence, said target polynucleotide sequence being regulated by a promoter native to a *S. cerevisiae* YMR325W gene[[.]] or a YMR325W promoter sequence homolog[[s]]-comprising one or more nucleotide substitutions, additions or deletions that do not effect the ability of the sequence to promote regulated transcription of said target polynucleotide sequence thereof; wherein an increase or decrease in expression of said target polynucleotide sequence relative to expression of said target polynucleotide sequence in the absence of

said candidate molecule indicates that said candidate molecule modulates expression of said sterol biosynthesis pathway target polynucleotide sequence.

22. (Amended) The method of claim 1 wherein said promoter comprises SEQ ID NO: 3[[,]] or a SEQ ID NO: 3 homolog[[s]]comprising one or more nucleotide substitutions, additions or deletions that do not effect the ability of the sequence to promote transcription of said operatively linked sequence thereof.
23. (Original) The method of claim 2 wherein said marker gene is selected from the group consisting of green fluorescent protein, red fluorescent protein, blue fluorescent protein, luciferase, LEU2, LYS2, ADE2, TRP1, CAN1, CYH2, GUS, CUP1 and chloramphenicol acetyl transferase.
24. (Canceled)
25. (Original) The method of claim 1, wherein said molecule is selected from the group consisting of natural products, proteins, and small molecules.
26. (Original) The method of claim 25, wherein said molecule is purified.
27. (Original) The method of claim 25, wherein said molecule is not substantially purified.
28. (Original) The method of claim 1, wherein step (a) comprises contacting said cell with a second, test cell, wherein said test cell produces said molecule.
29. (Original) The method of claim 28, wherein said molecule is released by said test cell.
30. (Original) The method of claim 28, wherein said molecule is secreted by said test cell.